

July 10, 2001

Mr. Chad Bullock
Hayes Lemmerz International, Bristol Inc.
51650 Country Road 133
Bristol, IN 46507

Re: 039-14311-00191
Minor Source Modification to:
Part 70 permit No.: **T039-6890-00191**

Dear Mr. Bullock:

Hayes Lemmerz International, Bristol Inc. (previously known as CMI-Precision Mold, Inc.) was issued a Part 70 permit on July 13, 1999 for operation of an aluminum foundry manufacturing cast and machined aluminum products. An application to modify the source was received on May 1, 2001. Pursuant to 326 IAC 2-7-10.5 the following emission units are approved for construction at the source:

- (a) One (1) melting and combustion operation (Unit 023) consisting of one (1) reverberatory furnace F processing aluminum at a maximum rate of 3.0 tons per hour, rated at 12.0 MMBtu per hour, combusting natural gas, and exhausting to one (1) stack (Stack 023).
- (b) One (1) melting and combustion operation (Unit 024) consisting of one (1) reverberatory furnace G processing aluminum at a maximum rate of 1.5 tons per hour, rated at 6.0 MMBtu per hour, combusting natural gas, and exhausting to one (1) stack (Stack 024).

The following construction conditions are applicable to the proposed project:

- General Construction Conditions
- 1. The data and information supplied with the application shall be considered part of this source modification approval. Prior to any proposed change in construction which may affect the potential to emit (PTE) of the proposed project, the change must be approved by the Office of Air Quality (OAQ).
- 2. This approval to construct does not relieve the permittee of the responsibility to comply with the provisions of the Indiana Environmental Management Law (IC 13-11 through 13-20; 13-22 through 13-25; and 13-30), the Air Pollution Control Law (IC 13-17) and the rules promulgated thereunder, as well as other applicable local, state, and federal requirements.
- 3. Effective Date of the Permit
Pursuant to IC 13-15-5-3, this approval becomes effective upon its issuance.
- 4. Pursuant to 326 IAC 2-1.1-9 and 326 IAC 2-7-10.5(i), the Commissioner may revoke this approval if construction is not commenced within eighteen (18) months after receipt of this approval or if construction is suspended for a continuous period of one (1) year or more.

5. All requirements and conditions of this construction approval shall remain in effect unless modified in a manner consistent with procedures established pursuant to 326 IAC 2.
6. Pursuant to 326 IAC 2-7-10.5(l) the emission units constructed under this approval shall not be placed into operation prior to revision of the source's Part 70 Operating Permit to incorporate the required operation conditions.
7. The Affidavit of Construction shall be submitted to the Office of Air Quality (OAQ), Permit Administration & Development Section.

The source may begin construction and operation when the minor source modification has been issued. Operating conditions shall be incorporated into the Part 70 operating permit as a minor permit modification in accordance with 326 IAC 2-7-10.5(l)(2) and 326 IAC 2-7-12.

This decision is subject to the Indiana Administrative Orders and Procedures Act - IC 4-21.5-3-5. If you have any questions on this matter please contact Adeel Yousuf, c/o OAQ, 100 North Senate Avenue, P.O. Box 6015, Indianapolis, Indiana, 46206-6015, or call (973) 575-2555, ext. 3252 or dial (800) 451-6027, press 0 and ask for 3-6878.

Sincerely,

Original Signed by Paul Dubenetzky
Paul Dubenetzky, Chief
Permits Branch
Office of Air Quality

Attachments
AY/EVP

cc: File - Elkhart County
U.S. EPA, Region V
Elkhart County Health Department
Air Compliance Section Inspector - Rick Reynolds
Compliance Data Section - Karen Nowak
Administrative and Development - Janet Mobley
Technical Support and Modeling - Michelle Boner

PART 70 OPERATING PERMIT OFFICE OF AIR QUALITY

**Hayes Lemmerz International, Bristol Inc.
51650 County Road 133
Bristol, Indiana 46507**

(herein known as the Permittee) is hereby authorized to operate subject to the conditions contained herein, the source described in Section A (Source Summary) of this permit.

This permit is issued in accordance with 326 IAC 2 and 40 CFR Part 70 Appendix A and contains the conditions and provisions specified in 326 IAC 2-7 as required by 42 U.S.C. 7401, et. seq. (Clean Air Act as amended by the 1990 Clean Air Act Amendments), 40 CFR Part 70.6, IC 13-15 and IC 13-17.

Operation Permit No.: T039-6890-00191	
Issued by: Janet G. McCabe, Assistant Commissioner Office of Air Quality	Issuance Date: July 13, 1999 Expiration Date: July 13, 2004
First Administrative Amendment 039-11438-00191	Issuance Date: December 3, 1999
First Minor Source Modification: 039-14311	Pages Affected: 6, 7, 8 Pages Added: 45a, 45b
Issued by: Original Signed by Paul Dubenetzky Paul Dubenetzky, Branch Chief Office of Air Quality	Issuance Date: July 10, 2001

SECTION A

SOURCE SUMMARY

This permit is based on information requested by the Indiana Department of Environmental Management (IDEM), Office of Air Quality (OAQ). The information describing the source contained in conditions A.1 through A.3 is descriptive information and does not constitute enforceable conditions. However, the Permittee should be aware that a physical change or a change in the method of operation that may render this descriptive information obsolete or inaccurate may trigger requirements for the Permittee to obtain additional permits or seek modification of this permit pursuant to 326 IAC 2, or change other applicable requirements presented in the permit application.

A.1 General Information [326 IAC 2-7-4(c)] [326 IAC 2-7-5(15)]

The Permittee owns and operates a stationary aluminum foundry manufacturing cast and machined aluminum products.

Responsible Official: Chad Bullock
Source Address: 51650 County Road 133, Bristol, Indiana 46507
Mailing Address: 51650 County Road 133, Bristol, Indiana 46507
SIC Code: 3714
County Location: Elkhart
County Status: Attainment for all criteria pollutants
Source Status: Part 70 Permit Program
Major Source, under PSD Rules;
Major Source, Section 112 of the Clean Air Act

A.2 Emission Units and Pollution Control Equipment Summary [326 IAC 2-7-4(c)(3)] [326 IAC 2-7-5(15)]

This stationary source consists of the following emission units and pollution control devices:

- (a) One (1) melting and combustion operation (Unit 001) consisting of one (1) reverberatory furnace A processing aluminum at a maximum rate of 4.75 tons per hour, rated at 9.1 million (MM) British thermal units (Btu) per hour, combusting natural gas, and exhausting to one (1) stack (Stack 001);
- (b) One (1) melting and combustion operation (Unit 002) consisting of one (1) reverberatory furnace B processing aluminum at a maximum rate of 4.75 tons per hour, rated at 9.1 MMBtu per hour, combusting natural gas, and exhausting to one (1) stack (Stack 001);
- (c) One (1) melting and combustion operation (Unit 020) consisting of one (1) reverberatory furnace C processing aluminum at a maximum rate of 6.0 tons per hour, rated at 22.8 MMBtu per hour, combusting natural gas, and exhausting to one (1) stack (Stack 020);
- (d) One (1) melting and combustion operation (Unit 021) consisting of one (1) reverberatory furnace D processing aluminum at a maximum rate of 6.0 tons per hour, rated at 22.8 MMBtu per hour, combusting natural gas, and exhausting to one (1) stack (Stack 021);
- (e) One (1) melting and combustion operation (Unit 022) consisting of one (1) reverberatory furnace E processing aluminum at a maximum rate of 3.0 tons per hour, rated at 12.0 million MMBtu per hour, combusting natural gas, and exhausting to one (1) stack (Stack 022);
- (f) One (1) semi-permanent molding operation (Unit 100) consisting of one (1) semi-permanent turntable and six (6) casting machines with molds sent to a casting monorail, processing aluminum at a maximum rate of 2.0 tons per hour, and exhausting through three (3) roof exhaust fans (Stacks 100a, 100b, and 100c);

- (g) One (1) semi-permanent molding operation (Unit 101) consisting of one (1) semi-permanent turntable and six (6) casting machines with molds sent to a casting monorail, processing aluminum at a maximum rate of 2.0 tons per hour, and exhausting to four (4) roof exhaust fans (Stacks 101a, 101b, 101c, and 101d);
- (h) One (1) semi-permanent molding operation (Unit 102) consisting of one (1) semi-permanent turntable and six (6) casting machines with molds sent to a casting monorail, processing aluminum at a maximum rate of 2.0 tons per hour, and exhausting to four (4) roof exhaust fans (Stacks 102a, 102b, 102c, and 102d);
- (i) One (1) semi-permanent molding operation (Unit 103) consisting of one (1) prototype semi-permanent mold turntable (operation is not necessarily performed on any particular turntable) and six (6) available casting machines (operations are performed on individual casting machines) with molds sent to a casting monorail, processing aluminum at a maximum rate of 0.5 tons per hour, and exhausting to the general plant atmosphere;
- (j) One (1) core making operation (Unit 200) consisting of five (5) sand silos (sand silos #1-5), three (3) sand heaters, four (4) sand mixers, eight (8) core machines, and storage racks, processing sand and resin with a maximum sand process rate of 4.5 tons per hour, with one (1) dust collector (DC-1) on sand silo #1, sand silo #2, sand silo #3, sand silo #4, and their two (2) associated sand heaters for particulate control which exhausts through one (1) stack (Stack 200a), one (1) dust collector (DC-12) on sand silo #5 and its associated sand heater for particulate control which exhausts through one stack (Stack 200h), and eight (8) acid scrubbers on the core machines for VOC control which exhaust through five (5) stacks (Stacks 200b through 200f);
- (k) One (1) prototype core making operation (Unit 210) consisting of one (1) sand silo, one (1) sand mixer, and storage racks, processing sand and resin with a maximum sand process rate of 0.25 tons per hour. This operation is portable and can utilize sand from any of the five sand silos in the core making operation (Unit 200);
- (l) One (1) core removal operation (Unit 230) consisting of a core knockout room with multiple automatic knockout hammers, with a maximum sand throughput of 4.75 tons per hour, exhausting to two (2) stacks (Stacks 230 a-b);
- (m) One (1) mold blasting room (Unit 350) with a maximum capacity of 31.2 tons of steel molds per hour and 3 tons of blasting material per hour, controlled by a baghouse, with emissions exhausting through one (1) stack (Stack 350);
- (n) One (1) melting and combustion operation (Unit 023) consisting of one (1) reverberatory furnace F processing aluminum at a maximum rate of 3.0 tons per hour, rated at 12.0 MMBtu per hour, combusting natural gas, and exhausting to one (1) stack (Stack 023); and
- (o) One (1) melting and combustion operation (Unit 024) consisting of one (1) reverberatory furnace G processing aluminum at a maximum rate of 1.5 tons per hour, rated at 12.0 MMBtu per hour, combusting natural gas, and exhausting to one (1) stack (Stack 024).

A.3 Specifically Regulated Insignificant Activities [326 IAC 2-7-1(21)] [326 IAC 2-7-4(c)]
[326 IAC 2-7-5(15)]

This stationary source also includes the following insignificant activities which are specifically regulated, as defined in 326 IAC 2-7-1(21):

- (a) Grinding and machining operations controlled with fabric filters, scrubbers, mist collectors, wet collectors and electrostatic precipitators with a design grain loading of less than or equal to 0.03 grains per actual cubic foot and a gas flow rate less than or equal to 4000 actual cubic feet per minute, including the following: deburring; buffing; polishing; abrasive blasting; pneumatic conveying; woodworking operations; and specifically the following:
 - (1) One (1) shot blasting operation (Unit 360), consisting of one (1) shot blast machine controlled by one (1) dust collector, with a maximum capacity of processing 2.16 tons of aluminum castings per hour.

SECTION D.7 FACILITY OPERATION CONDITIONS

Facility Description [326 IAC 2-7-5(15)]

- (n) One (1) melting and combustion operation (Unit 023) consisting of one (1) reverberatory furnace F processing aluminum at a maximum rate of 3.0 tons per hour, rated at 12.0 MMBtu per hour, combusting natural gas, and exhausting to one (1) stack (Stack 023); and
- (o) One (1) melting and combustion operation (Unit 024) consisting of one (1) reverberatory furnace G processing aluminum at a maximum rate of 1.5 tons per hour, rated at 12.0 MMBtu per hour, combusting natural gas, and exhausting to one (1) stack (Stack 024).

(The information describing the process contained in this facility description box is descriptive information and does not constitute enforceable conditions.)

THIS SECTION OF THE PERMIT IS BEING ISSUED UNDER THE PROVISIONS OF 326 IAC 2-1 AND 326 IAC 2-7-10.5, WITH CONDITIONS LISTED BELOW.

Operation Conditions

Emission Limitations and Standards [326 IAC 2-7-5(1)]

D.7.1 Particulate Matter (PM) [326 IAC 6-3-2(c)]

- (a) Pursuant to 326 IAC 6-3 (Process Operations), the allowable PM emission rate from reverberatory furnace F shall not exceed 8.56 pounds per hour when operating at a process weight rate of 6,000 pounds per hour.
- (a) Pursuant to 326 IAC 6-3 (Process Operations), the allowable PM emission rate from reverberatory furnace G shall not exceed 5.38 pounds per hour when operating at a process weight rate of 3,000 pounds per hour.
- (b)

The above pounds per hour limitations were calculated with the following equation:

$$E = 4.10 P^{0.67} \quad \text{where } E = \text{rate of emission in pounds per hour; and} \\ P = \text{process weight rate in tons per hour}$$

Compliance Monitoring Requirements [326 IAC 2-7-6(1)] [326 IAC 2-7-5(1)]

D.7.2 Visible Emissions Notations

- (a) Daily visible emission notations of the reverberatory furnaces F and G stack exhausts shall be performed during normal daylight operations when exhausting to the atmosphere. A trained employee shall record whether emissions are normal or abnormal.
- (b) For processes operated continuously, "normal" means those conditions prevailing, or expected to prevail, eighty percent (80%) of the time the process is in operation, not counting startup or shut down time.
- (c) In the case of batch or discontinuous operations, readings shall be taken during that part of the operation that would normally be expected to cause the greatest emissions.

- (d) A trained employee is an employee who has worked at the plant at least one (1) month and has been trained in the appearance and characteristics of normal visible emissions for that specific process.
- (e) The Compliance Response Plan for this unit shall contain troubleshooting contingency and response steps for when an abnormal emission is observed.

Record Keeping and Reporting Requirements [326 IAC 2-7-5(3)] [326 IAC 2-7-19]

D.7.3 Record Keeping Requirements

- (a) To document compliance with Condition D.7.2, the Permittee shall maintain records of daily visible emission notations of the reverberatory furnaces F and G stack exhausts.
- (b) All records shall be maintained in accordance with Section C - General Record Keeping Requirements, of this permit.

Mail to: Permit Administration & Development Section
Office Of Air Quality
100 North Senate Avenue
P. O. Box 6015
Indianapolis, Indiana 46206-6015

Hayes Lemmerz International - Bristol, Inc.
51650 County Road 133
Bristol, IN 46507

Affidavit of Construction

I, _____, being duly sworn upon my oath, depose and say:
(Name of the Authorized Representative)

1. I live in _____ County, Indiana and being of sound mind and over twenty-one (21) years of age, I am competent to give this affidavit.

2. I hold the position of _____ for _____.
(Title) (Company Name)

3. By virtue of my position with _____, I have personal
(Company Name)

knowledge of the representations contained in this affidavit and am authorized to make these representations on behalf of _____.
(Company Name)

4. I hereby certify that Hayes Lemmerz International - Bristol, Inc., 51650 County Road 133, Bristol, Indiana, 46507, completed construction of the two (2) reverberatory furnaces on _____ in conformity with the requirements and intent of the construction permit application received by the Office of Air Quality on May 1, 2001 and as permitted pursuant to **Minor Source Modification 039-14311, Plant ID No. 039-00191** issued on _____

Further Affiant said not.

I affirm under penalties of perjury that the representations contained in this affidavit are true, to the best of my information and belief.

Signature

Date

STATE OF INDIANA)
)SS

COUNTY OF _____)

Subscribed and sworn to me, a notary public in and for _____ County and State of Indiana on this _____ day of _____, 20 _____.

My Commission expires: _____

Signature

Name (typed or printed)

Section 10: Affidavit.wpd 7/00

Indiana Department of Environmental Management Office of Air Quality

Technical Support Document (TSD) for a Minor Source Modification to a Part 70 Operating Permit

Source Background and Description

Source Name:	Hayes Lemmerz International - Bristol, Inc.
Source Location:	51650 County Rd. 133, Bristol, IN 46507
County:	Elkhart
SIC Code:	3714
Operation Permit No.:	T039-6890-00191
Operation Permit Issuance Date:	July 13, 1999
Source Modification No.:	039-14311-00191
Permit Reviewer:	Adeel Yousuf / EVP

The Office of Air Quality (OAQ) has reviewed a modification application from Hayes Lemmerz International - Bristol, Inc. relating to the operation of an aluminum foundry manufacturing cast and machined aluminum products.

History

On May 1, 2001, Hayes Lemmerz International, Inc. submitted an application to the OAQ requesting to change the responsible official name and add two (2) additional reverberatory furnaces (Units F and G) at their existing plant. Hayes Lemmerz International - Bristol, Inc. was issued a Part 70 permit on July 13, 1999. This minor source modification will be incorporated into the Part 70 permit through a Minor Permit Modification No. 039-14414-00191. This minor source modification will give the source approval to construct only.

New Emission Units and Pollution Control Equipment

The modification consists of the following permitted emission units and pollution control devices:

- (a) One (1) melting and combustion operation (Unit 023) consisting of one (1) reverberatory furnace F processing aluminum at a maximum rate of 3.0 tons per hour, rated at 12.0 MMBtu per hour, combusting natural gas, and exhausting to one (1) stack (Stack 023).
- (b) One (1) melting and combustion operation (Unit 024) consisting of one (1) reverberatory furnace G processing aluminum at a maximum rate of 1.5 tons per hour, rated at 6.0 MMBtu per hour, combusting natural gas, and exhausting to one (1) stack (Stack 024).

Existing Approvals

The source was issued a Part 70 Operating Permit (T039-6890-00191) on July 13, 1999. The source has since received the following:

- (a) First Administrative Amendment No.: 039-11438-00191, issued on December 3, 1999.

Enforcement Issue

There are no enforcement actions pending.

Recommendation

The staff recommends to the Commissioner that the Minor Source Modification be approved. This recommendation is based on the following facts and conditions:

Unless otherwise stated, information used in this review was derived from the application and additional information submitted by the applicant.

An application for the purposes of this review was received on May 1, 2000.

Emission Calculations

See Appendix A of this document for detailed emissions calculations (five (5) pages).

Potential To Emit Before Controls (Modification)

Pursuant to 326 IAC 2-1.1-1(16), Potential to Emit is defined as "the maximum capacity of a stationary source to emit any air pollutant under its physical and operational design. Any physical or operational limitation on the capacity of a source to emit an air pollutant, including air pollution control equipment and restrictions on hours of operation or type or amount of material combusted, stored, or processed shall be treated as part of its design if the limitation is enforceable by the U. S. EPA."

Pollutant	Potential To Emit (tons/year)
PM	11.00
PM-10	11.00
SO ₂	17.75
VOC	4.30
CO	6.60
NO _x	22.90

Note: For the purpose of determining Title V applicability for particulates, PM-10, not PM, is the regulated pollutant in consideration.

HAP's	Potential To Emit (tons/year)
Hydrochloric Acid	1.177
Chlorine	0.717
Lead	0.01
Manganese	0.02
Nickel	0.01
Chromium	0.01
TOTAL	1.944

Potential to Emit for the Modification

The table below summarizes the total potential to emit, reflecting all limits, of the significant emission units.

	Potential to Emit (tons/year)						
Process/facility	PM	PM-10	SO ₂	VOC	CO	NO _x	HAPs
Melting and Combustion (Unit 023)	7.40	7.40	11.83	2.90	4.40	15.30	1.30
Melting and Combustion (Unit 024)	3.70	3.70	5.92	1.4	2.20	7.60	0.70
Total Emissions	11.10	11.10	17.75	4.30	6.60	22.90	2.00
PSD Significance Levels	25	15	40	40	100	40	25

This modification to an existing major stationary source is not major because the emissions increase is less than the PSD significant levels. Therefore, pursuant to 326 IAC 2-2 and 40 CFR 52.21, the PSD requirements do not apply.

Justification for the Modification

The Title V permit is being modified through a Minor Source Modification. This modification is being performed pursuant to 326 IAC 2-7-10.5(d) because the potential to emit PM and PM-10 is less than twenty-five (25) tons per year, but greater than five (5) tons per year. This Minor Source Modification will give the source approval to construct the new emission units. A Minor Permit Modification (039-14414-00191) will be issued and will incorporate the source modification into the Part 70 permit and give the source approval to operate the new emission units.

County Attainment Status

The source is located in Elkhart County.

Pollutant	Status
PM-10	attainment
SO ₂	attainment
NO ₂	attainment
Ozone	attainment
CO	attainment
Lead	attainment

- (a) Volatile organic compounds (VOC) and oxides of nitrogen (NO_x) are precursors for the formation of ozone. Therefore, VOC and NO_x emissions are considered when evaluating the rule applicability relating to the ozone standards. Elkhart County has been designated as attainment or unclassifiable for ozone.

Federal Rule Applicability

- (a) This source is not subject to the requirements of the New Source Performance Standard (NSPS), 326 IAC 12, (40 CFR 60.19, Subpart S (Primary Aluminum Reduction), because the source does not perform primary aluminum reduction as defined in 40 CFR 60.191. This source is a secondary aluminum foundry plant, therefore the requirements under 326 IAC 12, (40 CFR 60.19, Subpart S) do not apply. limited to ten percent (10%) or less.

- (b) There are no National Emission Standards for Hazardous Air Pollutants (NESHAPs)(326 IAC 14 and 40 CFR Part 63) applicable to this source.

State Rule Applicability - Entire Source

326 IAC 2-6 (Emission Reporting)

This source is subject to 326 IAC 2-6 (Emission Reporting), because it has the potential to emit more than one hundred (100) tons per year of PM, PM10, and VOC. Pursuant to this rule, the owner/operator of the source must annually submit an emission statement for the source. The annual statement must be received by April 15 of each year and contain the minimum requirement as specified in 326 IAC 2-6-4. The submittal should cover the period defined in 326 IAC 2-6-2(8)(Emission Statement Operating Year).

326 IAC 5-1 (Visible Emissions Limitations)

Pursuant to 326 IAC 5-1-2 (Opacity Limitations), except as provided in 326 IAC 5-1-3 (Temporary Exemptions), opacity shall meet the following, unless otherwise stated in this permit:

- (a) Opacity shall not exceed an average of forty percent (40%) any one (1) six (6) minute averaging period as determined in 326 IAC 5-1-4.
- (b) Opacity shall not exceed sixty percent (60%) for more than a cumulative total of fifteen (15) minutes (sixty (60) readings) as measured according to 40 CFR 60, Appendix A, Method 9 or fifteen (15) one (1) minute nonoverlapping integrated averages for a continuous opacity monitor) in a six (6) hour period.

State Rule Applicability - Individual Facilities

326 IAC 2-4.1-1 (New Source Toxics Control)

326 IAC 2-4.1-1 applies to new or reconstructed facilities with potential emissions of any single HAP equal or greater than ten (10) tons per twelve (12) month period and potential emissions of a combination of HAPs greater than or equal to twenty-five (25) tons per twelve (12) month period. This modification is not subject to 326 IAC 2-4.1-1 (New Source Toxics Control) because it has potential single HAP and total HAPs emission of less than 10 and 25 tons per year, respectively.

326 IAC 6-3-2 (Process Operations)

- (a) The particulate matter (PM) from the reverberatory furnace F (Unit 023) shall be limited by the following:

Interpolation of the data for the process weight rate up to sixty thousand (60,000) pounds per hour shall be accomplished by use of the equation:

$$E = 4.10 P^{0.67} \quad \text{where } E = \text{rate of emission in pounds per hour and} \\ P = \text{process weight rate in tons per hour}$$

$$E = 4.10 (3.0 \text{ TPH})^{0.67} = 8.56 \text{ lbs PM/hr}$$

Based on the above equation, particulate matter emissions from the reverberatory furnace F shall be limited to 8.56 pounds per hour.

Compliance calculation:

$$(7.0 \text{ tons PM/yr}) * (\text{yr}/8,760 \text{ hrs}) * (2,000 \text{ lbs/ton}) = 1.60 \text{ lbs PM/hr}$$

Actual lbs PM/hr (1.60) is less than the allowable lbs PM/hr (8.56), therefore the reverberatory furnace F (Unit 023) will comply with the requirements of 326 IAC 6-3-2.

- (b) The particulate matter (PM) from the reverberatory furnace G (Unit 024) shall be limited by the following:

Interpolation of the data for the process weight rate up to sixty thousand (60,000) pounds per hour shall be accomplished by use of the equation:

$$E = 4.10 P^{0.67} \quad \text{where } E = \text{rate of emission in pounds per hour and} \\ P = \text{process weight rate in tons per hour}$$

$$E = 4.10 (1.5 \text{ TPH})^{0.67} = 5.38 \text{ lbs PM/hr}$$

Based on the above equation, particulate matter emissions from the reverberatory furnace G shall be limited to 5.38 pounds per hour.

Compliance calculation:

$$(3.5 \text{ tons PM/yr}) * (\text{yr}/8,760 \text{ hrs}) * (2,000 \text{ lbs/ton}) = 0.80 \text{ lbs PM/hr}$$

Actual lbs PM/hr (0.80) is less than the allowable lbs PM/hr (5.38), therefore the reverberatory furnace F (Unit 023) will comply with the requirements of 326 IAC 6-3-2.

326 IAC 8-1-6 (New Facilities, General Reduction Requirements)

Rule 8-1-6 applies to new facilities (as of January 1, 1980) which have potential emissions of 25 tons or more per year of volatile organic compounds (VOC). The potential VOC emissions from each of the two (2) reverberatory furnaces (Units 023 and 024) are each below the twenty-five (25) tons per year applicability threshold and are therefore, not subject to the requirements of 326 IAC 8-1-6.

Compliance Requirements

Permits issued under 326 IAC 2-7 are required to ensure that sources can demonstrate compliance with applicable state and federal rules on a more or less continuous basis. All state and federal rules contain compliance provisions, however, these provisions do not always fulfill the requirement for a more or less continuous demonstration. When this occurs IDEM, OAQ, in conjunction with the source, must develop specific conditions to satisfy 326 IAC 2-7-5. As a result, compliance requirements are divided into two sections: Compliance Determination Requirements and Compliance Monitoring Requirements.

Compliance Determination Requirements in Section D of the permit are those conditions that are found more or less directly within state and federal rules and the violation of which serves as grounds for enforcement action. If these conditions are not sufficient to demonstrate continuous compliance, they will be supplemented with Compliance Monitoring Requirements, also Section D of the permit. Unlike Compliance Determination Requirements, failure to meet Compliance Monitoring conditions would serve as a trigger for corrective actions and not grounds for enforcement action. However, a violation in relation to a compliance monitoring condition will arise through a source's failure to take the appropriate corrective actions within a specific time period.

The compliance monitoring requirements applicable to this source are as follows:

The reverberatory furnaces F and G have applicable compliance monitoring conditions as specified below:

- (a) Daily visible emissions notations of the reverberatory furnace (F and G) stack exhaust shall be performed during normal daylight operations. A trained employee will record whether emissions are normal or abnormal. For processes operated continuously "normal" means those conditions prevailing, or expected to prevail, eighty percent (80%) of the time the process is in operation, not

counting startup or shut down time. In the case of batch or discontinuous operations, readings shall be taken during that part of the operation that would normally be expected to cause the greatest emissions. A trained employee is an employee who has worked at the plant at least one (1) month and has been trained in the appearance and characteristics of normal visible emissions for that specific process. The Preventive Maintenance Plan for this unit shall contain troubleshooting contingency and corrective actions for when an abnormal emission is observed.

These monitoring conditions are necessary to ensure compliance with 326 IAC 6-3 (Process Operations) and 326 IAC 2-7 (Part 70).

Proposed Permit Changes

Name of the responsible official has been changed in section A of the permit.

SECTION A

SOURCE SUMMARY

This permit is based on information requested by the Indiana Department of Environmental Management (IDEM), Office of Air Management Quality (OAMQ). The information describing the source contained in conditions A.1 through A.3 is descriptive information and does not constitute enforceable conditions. However, the Permittee should be aware that a physical change or a change in the method of operation that may render this descriptive information obsolete or inaccurate may trigger requirements for the Permittee to obtain additional permits or seek modification of this permit pursuant to 326 IAC 2, or change other applicable requirements presented in the permit application.

A.1 General Information [326 IAC 2-7-4(c)] [326 IAC 2-7-5(15)]

The Permittee owns and operates a stationary aluminum foundry manufacturing cast and machined aluminum products.

Responsible Official: ~~Greg Williams~~ **Chad Bullock**
Source Address: 51650 County Road 133, Bristol, Indiana 46507
Mailing Address: 51650 County Road 133, Bristol, Indiana 46507
SIC Code: ~~3365, 3398~~ **3714**
County Location: Elkhart
County Status: Attainment for all criteria pollutants
Source Status: Part 70 Permit Program
Major Source, under PSD Rules;
Major Source, Section 112 of the Clean Air Act

Reverberatory furnaces (F and G) have been added to Section A.2.

A.2 Emission Units and Pollution Control Equipment Summary [326 IAC 2-7-4(c)(3)] [326 IAC 2-7-5(15)]

This stationary source consists of the following emission units and pollution control devices:

- (a) One (1) melting and combustion operation (Unit 001) consisting of one (1) reverberatory furnace A processing aluminum at a maximum rate of 4.75 tons per hour, rated at 9.1 million (MM) British thermal units (Btu) per hour, combusting natural gas, and exhausting to one (1) stack (Stack 001);
- (b) One (1) melting and combustion operation (Unit 002) consisting of one (1) reverberatory furnace B processing aluminum at a maximum rate of 4.75 tons per hour, rated at 9.1 MMBtu per hour, combusting natural gas, and exhausting to one (1) stack (Stack 001);

- (c) One (1) melting and combustion operation (Unit 020) consisting of one (1) reverberatory furnace C processing aluminum at a maximum rate of 6.0 tons per hour, rated at 22.8 MMBtu per hour, combusting natural gas, and exhausting to one (1) stack (Stack 020);
- (d) One (1) melting and combustion operation (Unit 021) consisting of one (1) reverberatory furnace D processing aluminum at a maximum rate of 6.0 tons per hour, rated at 22.8 MMBtu per hour, combusting natural gas, and exhausting to one (1) stack (Stack 021);
- (e) One (1) melting and combustion operation (Unit 022) consisting of one (1) reverberatory furnace E processing aluminum at a maximum rate of 3.0 tons per hour, rated at 20.4 million MMBtu per hour, combusting natural gas, and exhausting to one (1) stack (Stack 022);
- (f) One (1) semi-permanent molding operation (Unit 100) consisting of one (1) semi-permanent turntable and six (6) casting machines with molds sent to a casting monorail, processing aluminum at a maximum rate of 2.0 tons per hour, and exhausting through three (3) roof exhaust fans (Stacks 100a, 100b, and 100c);
- (g) One (1) semi-permanent molding operation (Unit 101) consisting of one (1) semi-permanent turntable and six (6) casting machines with molds sent to a casting monorail, processing aluminum at a maximum rate of 2.0 tons per hour, and exhausting to four (4) roof exhaust fans (Stacks 101a, 101b, 101c, and 101d);
- (h) One (1) semi-permanent molding operation (Unit 102) consisting of one (1) semi-permanent turntable and six (6) casting machines with molds sent to a casting monorail, processing aluminum at a maximum rate of 2.0 tons per hour, and exhausting to four (4) roof exhaust fans (Stacks 102a, 102b, 102c, and 102d);
- (i) One (1) semi-permanent molding operation (Unit 103) consisting of one (1) prototype semi-permanent mold turntable (operation is not necessarily performed on any particular turntable) and six (6) available casting machines (operations are performed on individual casting machines) with molds sent to a casting monorail, processing aluminum at a maximum rate of 0.5 tons per hour, and exhausting to the general plant atmosphere;
- (j) One (1) core making operation (Unit 200) consisting of five (5) sand silos (sand silos #1-5), three (3) sand heaters, four (4) sand mixers, eight (8) core machines, and storage racks, processing sand and resin with a maximum sand process rate of 4.5 tons per hour, with one (1) dust collector (DC-1) on sand silo #1, sand silo #2, sand silo #3, sand silo #4, and their two (2) associated sand heaters for particulate control which exhausts through one (1) stack (Stack 200a), one (1) dust collector (DC-12) on sand silo #5 and its associated sand heater for particulate control which exhausts through one stack (Stack 200h), and eight (8) acid scrubbers on the core machines for VOC control which exhaust through five (5) stacks (Stacks 200b through 200f);
- (k) One (1) prototype core making operation (Unit 210) consisting of one (1) sand silo, one (1) sand mixer, and storage racks, processing sand and resin with a maximum sand process rate of 0.25 tons per hour. This operation is portable and can utilize sand from any of the five sand silos in the core making operation (Unit 200);
- (l) One (1) core removal operation (Unit 230) consisting of a core knockout room with multiple automatic knockout hammers, with a maximum sand throughput of 4.75 tons per hour, exhausting to two (2) stacks (Stacks 230 a-b);
- (m) One (1) mold blasting room (Unit 350) with a maximum capacity of 31.2 tons of steel molds per hour and 3 tons of blasting material per hour, controlled by a baghouse, with emissions exhausting through one (1) stack (Stack 350);

- (n) One (1) melting and combustion operation (Unit 023) consisting of one (1) reverberatory furnace F processing aluminum at a maximum rate of 3.0 tons per hour, rated at 12.0 MMBtu per hour, combusting natural gas, and exhausting to one (1) stack (Stack 023); and
- (o) One (1) melting and combustion operation (Unit 024) consisting of one (1) reverberatory furnace G processing aluminum at a maximum rate of 1.5 tons per hour, rated at 12.0 MMBtu per hour, combusting natural gas, and exhausting to one (1) stack (Stack 024).

Section D.7 has been added to the permit to include the operation conditions for the proposed two reverberatory furnaces F and G.

SECTION D.7 FACILITY OPERATION CONDITIONS

Facility Description [326 IAC 2-7-5(15)]

- (n) One (1) melting and combustion operation (Unit 023) consisting of one (1) reverberatory furnace F processing aluminum at a maximum rate of 3.0 tons per hour, rated at 12.0 MMBtu per hour, combusting natural gas, and exhausting to one (1) stack (Stack 023); and
- (o) One (1) melting and combustion operation (Unit 024) consisting of one (1) reverberatory furnace G processing aluminum at a maximum rate of 1.5 tons per hour, rated at 12.0 MMBtu per hour, combusting natural gas, and exhausting to one (1) stack (Stack 024).

(The information describing the process contained in this facility description box is descriptive information and does not constitute enforceable conditions.)

THIS SECTION OF THE PERMIT IS BEING ISSUED UNDER THE PROVISIONS OF 326 IAC 2-1 AND 326 IAC 2-7-10.5, WITH CONDITIONS LISTED BELOW.

Operation Conditions

Emission Limitations and Standards [326 IAC 2-7-5(1)]

D.7.1 Particulate Matter (PM) [326 IAC 6-3-2(c)]

- (a) Pursuant to 326 IAC 6-3 (Process Operations), the allowable PM emission rate from reverberatory furnace F shall not exceed 8.56 pounds per hour when operating at a process weight rate of 6,000 pounds per hour.
- (a) Pursuant to 326 IAC 6-3 (Process Operations), the allowable PM emission rate from reverberatory furnace G shall not exceed 5.38 pounds per hour when operating at a process weight rate of 3,000 pounds per hour.

The above pounds per hour limitations were calculated with the following equation:

$$E = 4.10 P^{0.67}$$

where E = rate of emission in pounds per hour; and
P = process weight rate in tons per hour

Compliance Monitoring Requirements [326 IAC 2-7-6(1)] [326 IAC 2-7-5(1)]

D.7.2 Visible Emissions Notations

- (a) Daily visible emission notations of the reverberatory furnaces F and G stack exhausts shall be performed during normal daylight operations when exhausting to the atmosphere. A trained employee shall record whether emissions are normal or abnormal.
- (b) For processes operated continuously, "normal" means those conditions prevailing, or expected to prevail, eighty percent (80%) of the time the process is in operation, not counting startup or shut down time.
- (c) In the case of batch or discontinuous operations, readings shall be taken during that part of the operation that would normally be expected to cause the greatest emissions.
- (d) A trained employee is an employee who has worked at the plant at least one (1) month and has been trained in the appearance and characteristics of normal visible emissions for that specific process.
- (e) The Compliance Response Plan for this unit shall contain troubleshooting contingency and response steps for when an abnormal emission is observed.

Record Keeping and Reporting Requirements [326 IAC 2-7-5(3)] [326 IAC 2-7-19]

D.7.3 Record Keeping Requirements

- (a) To document compliance with Condition D.7.2, the Permittee shall maintain records of daily visible emission notations of the reverberatory furnaces F and G stack exhausts.
- (b) All records shall be maintained in accordance with Section C - General Record Keeping Requirements, of this permit.

Conclusion

This permit modification shall be subject to the conditions of the attached **Part 70 Minor Source Modification Permit No. 039-14311-00191**.

Appendix A: Emission Calculations

Company Name: Hayes Lemmerz International - Bristol, Inc.
Address City IN Zip: 51650 County Road 133, Bristol, IN 46507
CP: 039-14311
Plt ID: 039-00191
Reviewer: Adeel Yousuf / EVP
Date: May 9, 2001

Uncontrolled Potential Emissions (tons/year)					
Emissions Generating Activity					
Pollutant	Natural gas combustion Unit 023 (F)	Natural gas combustion Unit 024 (G)	Smelting Unit 023 (F)	Smelting Unit 024 (G)	TOTAL
PM	0.40	0.20	7.00	3.50	11.10
PM10	0.40	0.20	7.00	3.50	11.10
SO2	0.03	0.02	11.80	5.90	17.75
NOx	5.30	2.60	10.00	5.00	22.90
VOC	0.30	0.10	2.60	1.30	4.30
CO	4.40	2.20	0.00	0.00	6.60
total HAPs	0.00	0.00	1.30	0.70	1.99
worst case single HAP	0.00	0.00	(HCl) 0.784	(HCl) 0.392	(HCl) 1.177

Total emissions based on rated capacity at 8,760 hours/year.

Controlled Potential Emissions (tons/year)					
Emissions Generating Activity					
Pollutant	Natural gas combustion Unit 023 (F)	Natural gas combustion Unit 024 (G)	Smelting Unit 023 (F)	Smelting Unit 024 (G)	TOTAL
PM	0.40	0.20	7.00	3.50	11.10
PM10	0.40	0.20	7.00	3.50	11.10
SO2	0.03	0.02	11.80	5.90	17.75
NOx	5.30	2.60	10.00	5.00	22.90
VOC	0.30	0.10	2.60	1.30	4.30
CO	4.40	2.20	0.00	0.00	6.60
total HAPs	0.00	0.00	1.30	0.70	1.99
worst case single HAP	0.00	0.00	(HCl) 0.784	(HCl) 0.392	(HCl) 1.177

Total emissions based on rated capacity at 8,760 hours/year, after control.

Appendix A: Emissions Calculations
Natural Gas Combustion Only
10 < MM BTU/HR <100
Reveratory Furnace

Company Name: Hayes Lemmerz International - Bristol, Inc.
Address City IN Zip: 51650 County Road 133, Bristol, IN 46507
CP: 039-14311
Plt ID: 039-00191
Reviewer: Adeel Yousuf / EVP
Date: May 9, 2001

Heat Input Capacity
MMBtu/hr

Potential Throughput
MMCF/yr

12.0

105.1

Heat Input Capacity includes:

Natural Gas fired reverberatory furnace F rated at 12.0 mmbtu/hr (Unit 023)

	Pollutant					
Emission Factor in lb/MMCF	PM 7.6	PM10 7.6	SO2 0.6	NOx 100.0	VOC 5.5	CO 84.0
Potential Emission in tons/yr	0.4	0.4	0.032	5.3	0.3	4.4

Methodology:

MMBtu = 1,000,000 Btu

MMCF = 1,000,000 Cubic Feet of Gas

Emission Factors for NOx: Uncontrolled = 100, Low NOx burner = 83, Flue gas recirculation = 30

Emission Factors for CO: Uncontrolled = 35, Low NOx Burner = 61, Flue gas recirculation = 34

Potential Throughput (MMCF) = Heat Input Capacity (MMBtu/hr) x 8,760 hrs/yr x 1 MMCF/1,000 MMBtu

Emission Factors are from AP 42, Chapter 1.4, Tables 1.4-1, 1.4-2, 1.4-3, SCC #1-02-006-02

Emission (tons/yr) = Throughput (MMCF/yr) x Emission Factor (lb/MMCF)/2,000 lb/ton

Appendix A: Emissions Calculations
Natural Gas Combustion Only
10 < MM BTU/HR <100
Reveratory Furnace

Company Name: Hayes Lemmerz International - Bristol, Inc.
Address City IN Zip: 51650 County Road 133, Bristol, IN 46507
CP: 039-14311
Plt ID: 039-00191
Reviewer: Adeel Yousuf / EVP
Date: May 9, 2001

Heat Input Capacity
MMBtu/hr

Potential Throughput
MMCF/yr

6.0

52.6

Heat Input Capacity includes:

Natural Gas fired reverberatory furnace G rated at 6.0 mmbtu/hr (Unit 024)

	Pollutant					
Emission Factor in lb/MMCF	PM 7.6	PM10 7.6	SO2 0.6	NOx 100.0	VOC 5.5	CO 84.0
Potential Emission in tons/yr	0.2	0.2	0.016	2.6	0.1	2.2

Methodology:

MMBtu = 1,000,000 Btu

MMCF = 1,000,000 Cubic Feet of Gas

Emission Factors for NOx: Uncontrolled = 100, Low NOx burner = 83, Flue gas recirculation = 30

Emission Factors for CO: Uncontrolled = 35, Low NOx Burner = 61, Flue gas recirculation = 34

Potential Throughput (MMCF) = Heat Input Capacity (MMBtu/hr) x 8,760 hrs/yr x 1 MMCF/1,000 MMBtu

Emission Factors are from AP 42, Chapter 1.4, Tables 1.4-1, 1.4-2, 1.4-3, SCC #1-02-006-02

Emission (tons/yr) = Throughput (MMCF/yr) x Emission Factor (lb/MMCF)/2,000 lb/ton

Appendix A: Secondary Metal Production

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Aluminum

Company Name: Hayes Lemmerz International - Bristol, Inc.
Address City IN Zip: 51650 County Road 133, Bristol, IN 46507
CP: T039-14311
Pit ID: 039-000191
Reviewer: Adeel Yousuf / EVP
Date: May 9, 2001

SCC# 3-04-001-03

Smelting Furnace/Reverberatory: Unit 023

TYPE OF MATERIAL	Throughput LBS/HR	1 TON/2000 lbs	TON/HR				
Aluminum	6000	2000	3				
	PM (1) lbs/ton Produced	PM10 (1) lbs/ton Produced	SOx lbs/ton Produced	NOx lbs/ton Produced	VOC lbs/ton Produced	CO lbs/tons Produced	
	0.53	0.53	0.9	0.76	0.2	--	
Potential Emissions lbs/hr	1.6	1.6	2.7	2.3	0.6	--	
Potential Emissions lbs/day	38.2	38.2	64.8	54.7	14.4	--	
Potential Emissions tons/year	7.0	7.0	11.8	10.0	2.6	--	
	HCl (1) lbs/ton Produced	Cl (1) lbs/ton Produced	FI (1) lbs/ton Produced	Pb (2) lbs/ton Produced	Mn (2) lbs/ton Produced	Ni (2) lbs/tons Produced	Cr (2) lbs/tons Produced
	0.0597	0.0364	0.0081	0.0005	0.001	0.0005	0.0005
Potential Emissions lbs/hr	0.179	0.109	0.024	0.002	0.003	0.002	0.002
Potential Emissions lbs/day	4.298	2.621	0.583	0.036	0.072	0.036	0.036
Potential Emissions tons/year	0.784	0.478	0.106	0.007	0.013	0.007	0.007

Notes:

1) PM, PM10, HCl, Cl and FI emission factors are based on the stack test performed by the source.

2) Pb, Mn, Ni and Cr emission factors are provided by the source and are based on Engineering Estimate.

All other emission Factors are based on SCC codes for each operation and from AP-42, Table 12.8-2 and Table 12.8-4.

Appendix A: Secondary Metal Production

Page 5 of 5 TSD App A

Aluminum

Company Name: Hayes Lemmerz International - Bristol, Inc.
Address City IN Zip: 51650 County Road 133, Bristol, IN 46507
CP: T039-14311
Pit ID: 039-000191
Reviewer: Adeel Yousuf / EVP
Date: May 9, 2001

SCC# 3-04-001-03

Smelting Furnace/Reverberatory: Unit 024

TYPE OF MATERIAL	Throughput LBS/HR	1 TON/2000 lbs	TON/HR				
Aluminum	3000	2000	1.5				
	PM (1) lbs/ton Produced	PM10 (1) lbs/ton Produced	SOx lbs/ton Produced	NOx lbs/ton Produced	VOC lbs/ton Produced	CO lbs/tons Produced	
	0.53	0.53	0.9	0.76	0.2	--	
Potential Emissions lbs/hr	0.8	0.8	1.4	1.1	0.3	--	
Potential Emissions lbs/day	19.1	19.1	32.4	27.4	7.2	--	
Potential Emissions tons/year	3.5	3.5	5.9	5.0	1.3	--	
	HCl (1) lbs/ton Produced	Cl (1) lbs/ton Produced	FI (1) lbs/ton Produced	Pb (2) lbs/ton Produced	Mn (2) lbs/ton Produced	Ni (2) lbs/tons Produced	Cr (2) lbs/tons Produced
	0.0597	0.0364	0.0081	0.0005	0.001	0.0005	0.0005
Potential Emissions lbs/hr	0.090	0.055	0.012	0.001	0.002	0.001	0.001
Potential Emissions lbs/day	2.149	1.310	0.292	0.018	0.036	0.018	0.018
Potential Emissions tons/year	0.392	0.239	0.053	0.003	0.007	0.003	0.003

Notes:

1) PM, PM10, HCl, Cl and FI emission factors are based on the stack test performed by the source.

2) Pb, Mn, Ni and Cr emission factors are provided by the source and are based on Engineering Estimate.

All other emission Factors are based on SCC codes for each operation and from AP-42, Table 12.8-2 and Table 12.8-4.